United States Department of the Interior
U.S. Fish and Wildlife Service
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021
Telephone: (602) 242-0210 FAX: (602) 242-2513

AESO/FA
02-21-00-T-0361 February 18, 2005

Ms. Marjorie Blaine
Project Manager, Regulatory Branch
U.S. Army Corps of Engineers
5205 East Comanche Street
Davis Monthan AFB, Arizona 85707

Dear Ms. Blaine:

We have reviewed the September 28, 2004, Upper Chase Creek Diversion Habitat Mitigation and Monitoring Plan (HMMP), prepared in support of Phelps Dodge's application for a Section 404 Clean Water Act (CWA) permit to expand mining operations at the Morenci Mine in Greenlee County, Arizona. These comments are provided under authority of, and in accordance with, the Fish and Wildlife Coordination Act (48 Stat. 401, as amended U.S.C. 661 et. seq.) and are based on information contained in Public Notice 2000-00559-MB (PN), October, 2002; the Biological Evaluation (BE), November, 2000; and the HMMP.

Upper Chase Creek is located upstream of the open pit at the Morenci Mine. A complete description of the project is presented in the PN. According to the HMMP, the primary components of the project (a diversion dam, coffer-dam, and diversion pipeline) would impact 16.59 acres of jurisdictional waters along upper Chase Creek. Additionally, the PN states the expanded Garfield pit would have a 500-acre footprint and the expanded Garfield Gulch stockpile would have a 300-acre footprint. Proposed compensatory mitigation consists of restoration of 37.2 acres along lower Chase Creek and 43.3 acres along the San Francisco River.

We have three primary concerns regarding the proposed mitigation plan: 1) quantification of biological function along Upper Chase Creek, 2) consideration of upland impacts relating to biological function, and 3) potential affect of channel work along the San Francisco River on the threatened loach minnow (*Tiaroga cobitis*).

The HMMP proposes success criteria for revegetation performed as mitigation. The plan proposes that 80% of planted trees and shrubs should be living and growing one year after cessation of irrigation. The plan also discusses ecological functions and values monitoring, and proposes to use measures of habitat structure and composition to gauge the ecological functions and values that would be established at the restoration sites. We believe the methods proposed would be useful in describing functions established at the restoration sites. We recommend the

proposed measures of habitat structure and composition also be conducted at the impact site along Upper Chase Creek. Baseline data from the area of impact is needed for evaluating the success of mitigation at the restoration sites.

Of the 37.2 acres of restoration proposed along Lower Chase Creek, 16 acres is described as upland habitat. We assume these are areas above the ordinary high water mark. Based on the level of impact to upland areas along Upper Chase Creek, we recommend the upland portion of the mitigation proposal be expanded at both the Lower Chase Creek and San Francisco River mitigation sites. Adjacent uplands play a critical role in protecting the biological integrity of jurisdictional waters. The Corps' Nationwide Permit regulations recognize this concept and allow for the creation and protection of upland buffers to protect waters in mitigation projects. buffers should be evaluated on a case-by-case basis. Many ecologists argue for several hundred feet from the jurisdictional boundary. We recommend that whatever is proposed be commensurate with the level of ecological protection provided by affected uplands along Upper Chase Creek.

Technical questions regarding the above recommendations would probably best be addressed by a multidisciplinary team of the Federal and State resource agencies. At minimum, specific technical input should be sought from the Environmental Protection Agency, the Arizona Game and Fish Department, and the FWS. Outstanding questions may include the amount of data that should be collected, empirical success criteria that is realistic and attainable, and the manner in which to evaluate the role of buffers.

The HMMP discusses recontouring a point bar within the channel of the San Francisco River. We have discussed this matter with Westland Resources, consultants for the applicant. They subsequently informed us, via electronic mail, that: 1) construction activities would occur in early to late fall, outside the spawning season of the loach minnow; 2) equipment would not drive into the river, but would conduct work from the banks; 3) erosion and sediment control devices would be utilized during construction and until the site is stable; and 4) Phelps Dodge would like to continue to work with FWS to avoid adverse effects.

We appreciate these efforts, and look forward to working with you and Phelps Dodge to avoid adverse effects to the threatened loach minnow. Although the nearest documented location of the loach minnow is approximately 9 miles upstream of the mitigation site, we are unaware of any recent surveys conducted at the mitigation site. If you find that adverse effects cannot be avoided we are available to assist you with section 7 consultation.

We thank you for the opportunity to provide comments on the mitigation proposal. If the mitigation proposal is subsequently modified, or if we can provide technical or regulatory assistance, please contact Mike Martinez (x224).

If you wish to discuss the section 7 process, please contact Debra Bills (x239).

Sincerely,

/s/ Thomas A. Gatz
Deputy Field Supervisor

cc: Supervisor, Wetlands Regulatory Office, Environmental Protection Agency, San Francisco, CA
Supervisor, Project Evaluation Program, Arizona Game and Fish Department, Phoenix, AZ
Principal, Westland Resources, Tucson, AZ

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